CLAIM 1:

A generic globose spout, basin-outlet conduit, an upright tubular Inlet, and transitions bound domain; a globose, globose-inverse form includes inside or as integral parts an Inlet lower end and an outlet and constitutes said domain; a PAP segments locate upright plane align symmetric said domain forms and its parts lengthwise at least to a DCSS with a height through a springing line of said DCSS; said domain basin-outlet ascending rounded spout lowest surface through a DCSS summit makes up a shrunken PPLD form; said basin-outlet cross-sections constitute generic conduit globose, conduit shapes globose/conduit transitions of globose, globose-inverse domain; a rounded conduit globose, globose-inverse spout of a shrunken PPLD S, S and or C form upright plane aligned turns through a PAP angle greater than ninety but less than one hundred eighty degrees; a linear angled leg of a PAP and a shrunk PPLD form define globose generic basin-outlet spout shape which constitutes a cavity upper retention empirical volume of a fluid medium transporting waste; an entire cavity retains a quite smaller volume/mass than known drain traps;

said PPLD form slices into infinitesimal widths respective lengths wherein a width is a lowest horizontal segment of a rounded conduit cross-section perimeter wherein a width respective length reflects a cross-section shape, size; widths and cross-sections respectively band into a conduit shape PPLD form, a basin specific lowest surface form, an outlet summit with a DCSS narrow, narrowest width of band; two PAP intersections each at least a point constitute tangentially touching a PPLD width of band mid point, a First End or an End 2 undersurface, former depicts a PPLD form slant and latter positions a First End or an End 2 respective undersurface width of band upright plane aligned symmetric; an about upright or upright Inlet inflow consists of an End 1 upper end and End 2 lower end; a conduit basin-outlet spout consists of a globose basin and an ascending outlet spout from a First End into a summit, a DCSS form, and a descending outlet spout from said DCSS into an outlet Second End Exhaust; a First End or End 2 undersurface entire width of band is submerged under a merged basin-outlet cavity compact composite empirical volume upper retention having a merged compact composite retention free surface "at rest" extending to a height of said DCSS summit PPLD width of band; foregoing globose, globose-inverse domain having upright or about upright Inlet embodiment parts, assembling of a shape of parts into a configuration of a drain trap ultimate form includes an Inlet, a DCSS form, and a basin-outlet form FESD(s); an End 2 or a First End forms an undersurface inside rounded fillet unless a common surface part of a basin side; particularly a lower Inlet, an outlet First End interfacing a respective First End, an End 2, a basin blind side, or a basin-outlet lower, lowest surface PPLD, a DCSS constitute FESD(s); globose globose-inverse domain drain traps form a PAP, PPLD rounded spout conduit (PP) paths-of-passage through a short height retention cavity figure of an empirical volume compact composite;

a spout conduit rounded perimeter lowest horizontal infinitesimal width with a horizontal surface length is a width of band with a fluid surface interface, and banded adjacent widths make up a width of band length of a PPLD; a linear PAP of a conduit globose embodiment having an upright or about upright Inlet extends from an Inlet lower end, an End 2, or a globose-inverse embodiment from a First End of an outlet; a PPLD forward slanted S, S and or C form is globose, globose-inverse embodiments respective side views shown as a line having width of band surface form of a conduit basin-outlet globose universe generic forms; said S, C surface form height and length is highly reduced from current art drain traps; an End 2 or a First End width of band undersurface of banded adjacent widths radial lengths entirely submerged under fluid medium constitutes transport fluid waste transported mixture volume equivalent of a simple trap empirical retention; said empirical retention constitutes a conduit basin-outlet upper cavity;

a basin, outlet, and Inlet retention free surface "at rest" is largely surface area geometrics composite of circle, ellipse and parabolic forms jointly an overlapping geometrics compact composite of an Inlet and a basin-outlet; a basin cavity upper retention is a low height form and contains an Inlet End 2 or a First End, said form constitutes largely one of following four: an about centric spheroidal or spherical, a cylinder or a cylindroid remnant figure top, bottom horizontal plane truncated with its height, including an anti siphoning margin, less than 1.15 times largest dimension of an Inlet cross-section spanning retention free surface; said conduit upper retention cavity extends into a lower retention cavity, makes general gradual narrowing transition of globose cross-sections, respective areas breach toward a First End, a PAP aligned PPLD forms a surface inflection about a First End and a PPLD lowest basin form; said globose spout conduit basin cavity constitutes a directional turn greater than ninety degrees PAP upright plane symmetric; a spout outlet continues a lowest surface ascent of conduit basin-outlet cavity forming a compact composite merged outlet retention PAP aligned symmetric; a narrowing breach about a First End constitutes cross-sections narrowing symmetric submerged area, with a centric largest segment PAP upright plane aligned; said spout ascends from said First End, said ascent ends with a summit's highest cross-section, discharge-cross-section-surface (DCSS) ending a PPLD with a width of band embodiment narrow or narrowest; said DCSS lowest increment summit inflection completes a forward slanted S or S, C forms upper half; an outlet retention cavity is largely one of three shapes: a surface of revolution, an upright major axis elliptical, parabolic section forms; ascending outlet spout retention merges a retention free surface truncated low height figure making an upper retention composite; an ascending spout of a basin-outlet conduit with a grade high, highest pitch makes a narrow or narrowest width of band of said PPLD forms with cross-sections lower surface narrow or narrowest; conduit outlet spout shape into a DCSS is upright major axis largely a form of following: round, rounded, ellipse, lower surface a parabola, oval with lower end narrower, composite flow-energy-surface-dispensator, FESD cross-sections areas extending

into a descending outlet spout tubular outflow conduit; a conduit descending spout extends from a summit section into an outlet Second End rounded Exhaust cross-section; a Second End Exhaust, Inlet End 1 each includes one of following: hand coupling devices, flexible tubing splice welds, treaded devices hand or wrench secured to a drainage line; a threaded Second End Exhaust is contemplated;

a PAP as a leg of an angle defines a basin-outlet conduit rotation with a directional change from the gravity direction with an angle smaller than 180, greater than ninety degrees; said PAP PPLD tangency intersection relates to a PPLD form and its general slant; a PPLD highest infinitesimal increment most distant from an Inlet forms a horizontal inflection summit, a PPLD end a lowest increment of an upright DCSS which ends an unobstructed PAP; said PAP tangency with a First End or an End 2 and intersection with an undersurface extended radial width of band upright plane aligned and symmetric locates a counterpart PPLD width of band form of a basin lowest surface; a conduit basin lowest horizontal surface initiates a PPLD form and its slant; its widths of band lengths are lowest segments of a basin cavity lower cross-sections perimeter and confirm a counterpart width of band radial lengths of a First End or an End 2 undersurface form; a First End, an End 2 undersurface PAP aligned width of band radial length cross-sections centric line PPLD form orthogonal constitutes a PAP, PPLD separation; a PPLD S or S, C form transverse infinitesimal width of band each forms a section perimeter lowest segment wherein banded lower perimeter adjacent slices make up a lower surface of a basin-outlet conduit, continued from a height of a respective PAP End 2, a First End; said PAP End 2, First End cross-section area constitutes about matched basin cavity respective cross-sections lower areas defined by said centric segment orthogonal to a respective PPLD width of band contained by a basin lowest surface perimeter form; said cross-sections perimeter PPLD width of band length, centric segment length about sustains cross-sections area under, about, and around a respective PAP First End, or an End 2; a basin cavity lower retention said centric segment is a short length from said PAP aligned undersurface width of band radial segment to a PPLD of a basin lowest surface; said short length is a lower half of a conduit cavity PPLD S, S and or C form component highly shrunk when compared with such forms of other drain traps, for a given location sustained cross-section area a basin lowest surface PAP PPLD about least separation; a globose globose-inverse embodiment PPLD S, S and C are highly shrunk forms in comparison with such forms of other drain traps;

a basin-outlet cavity low height figure of an upper retention lower surface confirms said spout conduit cavity lower surface form and a shape of a rounded basin blind side; an upper retention cavity figure and a retention free "at rest" surface form verify a basin-outlet spout cavity lower and upper retention form and a basin blind side surface shape and an embodiment basic configuration; a PAP locates and upright plane aligns symmetric an entire submerged width of band of one: a First End, an End 2 undersurface together with a counterpart PPLD form of a basin lowest surface, a PPLD shape, basin lowest surface shape, slant, a summit

orthogonal DCSS; a PAP aligns a basin-outlet cavity compact composite figure upper retention "at rest" shape upright plane symmetric and generally an upper surface of a conduit basin-outlet, a descending spout shape, a Second End Exhaust section, said PAP End 2 or First End undersurface form respective upright Inlet or ascending spout;

a globose conduit spout cavity two retention free surfaces respective cross-sections make up an Inlet, a basin-outlet, and an outlet cavity coordinated depths; an Inlet as first, a basin-outlet ascending spout and a DCSS as a second are cavity depth coordinated by retention "free" surfaces respective areas and heights; said retained fluid free surfaces act as a latent communicator among an Inlet, basin, outlet conduit spout cavities with a shape of DCSS FESD setting fluid depths;

said domain not departing from invention Anti Sidelong, Anti Offset, Centric Anti Offset, Centric Offset, Offset Centric, Offset Sidelong, Sidelong Globose embodiments constitute basin-outlet respective Inlet various location upright plane aligned from an immediacy of an outlet toward a basin blind side, herein depicted as a Centric, Offset, Sidelong globose, globose-inverse embodiments;

said domain five generic claims are: Globose embodiment sides' narrow cross-sections breach, as a lowest surface rise constitutes an outlet First End with GC cross-sections of a basin-outlet; a PAP inclination with two locations of tangency as a directional, gravitational components of a conduit two directional aspects; a PPLD S form as a three-dimensional globose cavity shape form, a profile of a basin-outlet spout with a spout's grade highest pitch slant, a PPLD width of band as a horizontal increment of a rounded lowest surface breach, third; a computing algorithm advanced model finite element (PP) paths-of-passage lengths least sum as a defining measure of Inlet, basin-outlet fit, fourth; fifth generic claim is an inside perimeter shell form Globose-Conduit (GC) basin-outlet cross-section;

a PPLD transition from a globose shape three-dimensional form toward a conduit form constitutes a generic globose conduit transition; said paths-of-passage (PP) constitutes said inside perimeter shell form subdivided by a linear width having a respective globose to conduit form transfer length; said globose form transition surface starting section constitutes well-rounded perimeter or cylindrical form from an upper retention cavity globose shape with lowest horizontal segment a PPLD width of band; said shell transition surface starts with globose basin lower surface breadth narrowing, an S form lower curved portion rise and terminates with said S form upper part approaching a conduit form lower surface nearing a horizontal pitch; a high or highest slope least length shell, with a slope gradual pitch change, is preferred;

said interior perimeter surface shell transition shape area subdivided with upright planes into finite strips of gradually diminishing cross-sections area constitutes least such area with well rounded perimeter from globose to a conduit form; said least surface area having its centroid with a horizontal, upright component to summit; a vertical to a horizontal equalization requires an upright component multiplied by the gravity factor; then PP lengths sum constitutes

centroid or said shell surface area center respective distance from summit wherein upright component is gravity multiplied for purposes of equalizing components lengths having PP lengths least sum;

a three-dimensional algorithm computing said surface area strips include third dimension depth which subdivides entire cavity into cubes or spheres of specific gravities, sizes, shapes, each particle advanced computing modeled; said PP least sum constitutes preferred embodiment transition surface from a globose to a conduit or from a conduit to a globose shape for a given embodiment designation; an S form slanted length cross-section constitutes a GC section composite of a lower area rounded conduit form, a transition area from a conduit to globose form, an upper larger area globose form; said shell transition surface constitutes a basin-outlet spout conduit Inlet, basin or Inlet, basin-outlet transitions FESD, FESD manger, FESD SM surfaces, lower basin-outlet preferred surfaces constituting rounded lowest surfaces preferred TD FESD, pitched annular valley crescent forms with counterpart End 2 FESD surface shapes, and a basin, an outlet FESD; functionally fluid transport medium transported waste enters an End 1 passes through basin-outlet spout discharges through a Second End Exhaust; basin-outlet spout lower surface is conduit confining which transports fluid transported waste of high specific gravity; a FESD, FESD managers, FESD space managers, TD FESD space manager, and TD FESD constitute preferred lower surfaces of a basin-outlet conduit shape continued from an Inlet conduit form;

a globose form basin, Inlet common surface extending upwardly into a half dome with dome cavities about Inlet sides is a preferred such surface; a doming basin casing and a Bridging wall form domed cavity on either side of Inlet; a Bridging wall FESD makes inside fillet joints both ends and both sides of wall symmetric and PAP upright plane aligned;

an upper basin surfaces among many shown continues as a basin-outlet conduit spout; an End 2 "boot" form and upper, inner surface of doming basin blind side cavities on both sides of an Inlet make FESD(s), basin lowest PPLD surface rounded form, upper basin counterpart forms, respectively; a Fin, Doming cavity on either side of said Inlet with a double wall construction, End 2 "infant boot" with elongated nozzles, are embodiments basic FESD(s) frequently used; a TD FESD flared End 2 narrowly increasing separation from said circumferential Ridge, Trough extends toward an outlet DCSS topside narrowed breach of a PPLD S form width of band counterpart segment initiating a PAP PPLD separation; a preferred two directional (TD) FESD reorients a basin cavity lower retention interface of a basin-outlet spout, Inlet conduit three directional surfaces into a conduit spout lower surface two directional surfaces; Globose Embodiments PPLD lowest surface preferred rounded forms constituting a FESD End 2 counterparts includes Trough, Ridge, Partition, pitched annular valley;

said surface shell extends toward a summit as a conduit form where siphoning is not a concern; empirical volume globose retention readily adds additional retention because of its near spherical form wherein a larger retention cavity

Ridge, Trough extends toward an outlet DCSS topside narrowed breach of a PPLD S form width of band counterpart segment initiating a PAP PPLD separation; a preferred two directional (TD) FESD reorients a basin cavity lower retention interface of a basin-outlet spout, Inlet conduit three directional surfaces into a conduit spout lower surface two directional surfaces; Globose Embodiments PPLD lowest surface preferred rounded forms constituting a FESD End 2 counterparts includes Trough, Ridge, Partition, pitched annular valley;

said surface shell extends toward a summit as a conduit form where siphoning is not a concern; empirical volume globose retention readily adds additional retention because of its near spherical form wherein a larger retention cavity resists siphoning of a cavity entire retention; GC sections globose area three-dimensional confinement discharges large quantities of fluid wherein a lower section area two-directional confinement conduit, yet narrower Trough, assist passing of waste residue, GC cross-sections globose area portion resists siphoning also; said FESD space manager, a TD space manager with a more robust and positive way acknowledge suction by maintaining an End 2 submerged without a release of drain line air into control environment;

a Partitioned Sidelong one half of Embodiment is with highest flow energy; a globose embodiment with GC sections three-dimensional Trough, Ridge make up a globose retention cavity with a continued conduit rounded lower surface thus of a preferred shape; considering fabrication aspects Fig. 67 embodiment constitutes preference having a high basin with large upright major axis First End, increased height upper cavity retention "at rest" Centric embodiment form are first steps of anti siphoning action, preferred as such measures, with said anti siphoning measures planned;

a tie-in from a pressurized air bottle, such as used for propane gas, shut off by one-way check valve discharges into a basin-outlet whenever static inches of water pressure is less than a retention free surface "at rest" height such tie-ins can likewise use disinfecting fluid under pressure, said TD FESD includes preferred widows' square shape of nozzle orifices connected to a tie-in of a Flush Apparatus and directed toward opposite surface a short path under End 2 with preferred windows frame for various horizontal and upright direction range;

said embodiments fabricate from many different materials from a molded plastic material, however, a metal or alloy-based various composite materials is likewise contemplated.
